

REMARKS

Summary of the Invention

The invention features an isolated polypeptide comprising the amino acid sequence of CED-3 (SEQ ID NO.: 19).

Summary of the Office Action

Claim 6 is pending and examined in the present Office Action. Claim 6 is rejected under 35 U.S.C. 112, first paragraph. This rejection is addressed below.

Claim Amendments

Applicants have amended claim 6 and added claim 69 to more clearly recite the invention Applicants intend to claim. Support for the term “consisting of” in claim 69 is found throughout the specification, for example, at page 7, lines 5-13; page 19, lines 27-30; and page 21, lines 20-25. No new matter is added by these amendments.

Double Patenting Rejection

Claim 6 was rejected under the judicially created doctrine of non-obviousness-type double patenting as being unpatentable over claim 1 of issued U.S. Patent No. 5,962,301. This rejection will be addressed by the submission of a terminal disclaimer after allowable subject matter has been indicated, if appropriate.

Rejection under 35 U.S.C. § 112, first paragraph

Claim 6, which is directed to a CED-3 protein, stands rejected for lack of enablement. The Examiner maintains the assertion that the instant specification fails to teach how to make and use a full-length CED-3 protein. Relying on Xue et al. (*Genes Dev* 10:1073-1083 (1996); hereinafter “Xue”), the Examiner states that “later studies ... have revealed that ced-3 is a protease and which proteolytically cleaves itself. This property of ced-3 protein was not known at the time of filing and because of this property routinely used methods for producing recombinant proteins would not have been successful, as shown in Xue et al, where expression of the protein in bacteria produced three proteins, not one. This clearly indicates that producing the protein by routine methods would not have been predictable and the specification as filed did not produce any guidance how to make the protein.”

Applicants disagree with the Examiner’s assertion that routinely used methods for producing recombinant proteins would not have been successful in producing the CED-3 polypeptide of SEQ. ID NO.: 19 (full-length CED-3). Although the CED-3 protein undergoes self-proteolysis, the efficiency of this reaction is concentration dependent. When CED-3 protein is very abundant, the self-proteolysis reaction is efficient. If CED-3 protein is present in lower quantities, however, the self-proteolytic reaction is very inefficient. This concentration-dependent property of CED-3 cleavage would allow the skilled artisan to produce and isolate full-length CED-3 proteins using any one of many methods of protein production available at the time of filing.

This is evident even in Xue, which the Examiner cites as teaching that routine methods of protein production would fail to yield full length CED-3. Cleavage of CED-3 was efficient when high levels of CED-3 were expressed in *E. coli* under the control of the T7 promoter. Yet, even with this method, discernible quantities of full-length CED-3 are produced (see Xue, Figure 1A, lane 2). A method of synthesizing CED-3 that yielded lower quantities of protein, such as synthesis with rabbit reticulocyte lysates, resulted in greater relative quantities of full-length CED-3 (see Figure 1B, lane 2). Thus, both methods allow the production of the claimed protein, albeit at lower levels of total protein when CED-3 is expressed at high levels.

The Examiner's assertion that the instant specification fails to enable the production of full-length CED-3 protein makes two inappropriate assumptions: first, that the skilled artisan would have necessarily and exclusively used a method of protein production that results in high concentrations of CED-3; and second, that no full-length protein would be present under such circumstances. It is unreasonable, however, to assume that the skilled artisan would only have sought methods of producing full-length CED-3 polypeptides that would yield said protein in very high concentrations. It follows that it is unreasonable to assume that the skilled artisan would have failed in generating full-length CED-3 polypeptides.

Virtually any synthetic protocol known in the art at the time of filing would yield some amount of full-length CED-3 because such protocols do not produce CED-3 in very high concentrations. If one skilled in the art of protein production utilized any one of these methods, he would have succeeded in producing full-length CED-3 polypeptides.

No undue experimentation would have been necessary, as suggested by the Examiner. For this reason, Applicants respectfully request that the rejection of claim 6 for lack of enablement be withdrawn.

If the Examiner believes a Declaration on the above scientific points would be useful, Applicants respectfully request that he contact the undersigned so that one may be provided.

The Examiner further asserts that Applicants have not disclosed how to use the claimed invention in view of the unpredictability of producing a full length protein. As stated above, Applicants submit that the production of full-length CED-3 would not be unpredictable to one skilled in the art of protein production, and that full-length CED-3 protein could be produced using no more than routine methods. With regard to how to use the claimed invention, Applicants maintain that the instant specification teaches the use of CED-3 for generating antibodies (page 29, lines 15-33), for drug screening to identify agents that increase or decrease cell death (page 2, line 32 to page 3, line 18; page 4, lines 1-23; pages 17-20; and page 20, lines 26-33), and for identifying genes which are structurally related to CED-3 (page 3, lines 30-35; page 15, line 16 to page 16, line 16). Applicants note that the M.P.E.P. states:

As long as the specification discloses *at least one method for making and using* the claimed invention that bears a reasonable correlation to the entire scope of the claim, then the enablement requirement of 35 U.S.C. 112 is satisfied. *In re Fisher*, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970) (emphasis added). M.P.E.P. 2164.01(b)

Furthermore, if a statement of utility in the specification contains within it even a connotation of how to use the claimed invention then the enablement requirement of 35 U.S.C. 112 is satisfied (2164.01(c) M.P.E.P). In view of the disclosures discussed above, the instant specification teaches how to use the claimed invention. Thus, the enablement rejection for this reason may be withdrawn.

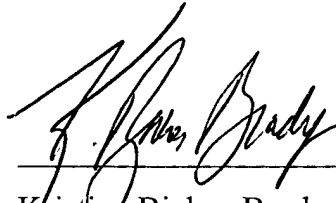
CONCLUSION

Applicants submit that the claims are now in condition for allowance, and such action is respectfully requested. Enclosed are a petition to extend the period for replying for four months, to and including December 23, 2004 and a Request for Continued Examination. If there are any charges, or any credits, please apply them to Deposit Account No. 03-2095.

Respectfully submitted,

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